

MINUTES

CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE MEETING OF MAY 20, 1993

The second meeting of the CTCDC in 1993 was held at the California State Automobile Association Training Facility in Hayward on May 20, 1993.

Chairman Mike Howard opened the meeting at 9:23 a.m. with the introduction of members and guests. The Chairman thanked Russ Taft and the CSAA for their hospitality.

The following members, alternates, and guests were in attendance:

ATTENDEES	ORGANIZATION	TELEPHONE
Members (Voting)		
Mike Howard Chairman	California Highway Patrol, Sacramento	(916) 657-7222
Dick Folkers Vice-Chairman	League of California Cities, Palm Desert	(619) 346-0611
Roger Burger	County Supervisors Association of California, Alhambra	(818) 458-4014
Bruce Carter	County Supervisors Association of California, Redding	(916) 225-5661
Gary Foxen	Auto Club of Southern California, Los Angeles	(213) 741-4429
Perry Lowden	California Department of Transportation, Sacramento	(916) 654-4551
Russ Taft	California State Automobile Association, San Francisco	(415) 565-2304
Ed von Borstel	League of California Cities, Modesto	(209) 577-5266
Jack Kletzman Secretary	California Department of Transportation, Sacramento	(916) 654-4715

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ATTENDEES	ORGANIZATION	TELEPHONE
Martin Boyle	City of Fremont	(510) 494-4684
Doug Edward	3M	
Robert Donner	Caltrans HQ	(916) 654-4949
Jack Fleck	City of San Francisco	(415) 554-2344
Randy Foust	Sacramento County	(916) 440-5966
Glenn Grigg	City of Cupertino	(408) 252-4645
Lance Heide	Napa County	(707) 253-4351
Roger Hertz	3M	
Gordon McLellan	GM Services	(408) 739-7111
Tom Micone	CHP	(916) 657-7222
Aki Morimoto	Caltrans, District 4	(510) 286-4560
Jack Navone	Brite Line Industries	(209) 367-1434
Justin O'Conner	3M	
Art Poganski	Public Citizen	(415) 461-1503
Bill Perry	Crisp Company (ATSSA)	(510) 656-2840
Frank Prim	City of Napa	(707) 257-9540
David Royer	City of Los Angeles	(213) 485-3548
Stu Wright	Stu Wright Assoc.	(415) 479-7494
Robert Zeigler	Marin County	(415) 499-6336

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MEMBERSHIP

Mr. Roger Burger, Assistant Director of the Department of Public Works, is retiring from the County of Los Angeles, and has resigned from the Committee. His four years of service is deeply appreciated.

Two new alternate members have been appointed to vacant positions on the Committee. They are Mr. Ed von Borstel, from the City of Modesto, representing the League of California Cities, and Mr. Jack Kletzman representing the California Department of Transportation

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MOTION: By Perry Lowden, second by Dick Folkers, to adopt the minutes of the San Diego meeting held on February 17, 1993. Motion carried 8-0.

89-9 EMERGENCY VEHICLE APPROACHING SIGN

Dick Folkers recommended the item be continued. Because of the length of time this item has been continued and the lack of progress, Chairman Howard suggested the item be tabled.

MOTION: By Mike Howard, second by Bruce Carter, to table the item, pending completion of the study. Motion carried 8-0.

ACTION: Item tabled.

91-7 LIGHT RAIL ALTERNATE FLASHING RED SIGNAL

Russ Taft said that the Light Rail Safety Subcommittee met on March 4, 1993. The subcommittee discussed convex mirrors, trolley coming signs, and is starting to examine the Light Rail Manual.

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91-7 LIGHT RAIL ALTERNATE FLASHING RED SIGNAL (continued.)

The Subcommittee has scheduled a meeting in San Diego at 10 a.m., on June 29, 1993, in the offices of Metropolitan Transit Development Board, 10th floor, at 1255 Imperial Avenue.

The Subcommittee has found that the alternating flashing red light is an inappropriate signal and Taft requested that this item be deleted. The preponderance of accidents with light rail is the light rail vehicle hitting a left turning motorist.

MOTION: By Mike Howard, second by Bruce Carter, to delete the item and have subsequent Subcommittee reports presented as separate items. Motion carried 8-0.

ACTION: Item deleted.

92-13 POLICE OR SHERIFF'S FACILITY SIGN

Dick Folkers asked that the item be continued because he has not yet received a response from the Chiefs of Police for California. Perry Lowden said there was no problem with establishing a standard, but local agencies should determine the appropriate symbol.

ACTION: Item continued.

92-18 GOLF CART SYMBOL SIGN

Dick Folkers presented the Committee with a brochure which explains the process in the City of Palm Desert for licensing as required in AB 1229 for using golf carts as an alternative means of transportation. The brochure is being revised because of safety regulations.

ACTION: Item continued

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93-3 BIKE LANE DELINEATION REVISION

Perry Lowden explained that the matter had been referred back to the California Bicycle Advisory Committee to evaluate a possible conflict with, or revision of, the Vehicle Code.

MOTION: By Perry Lowden, second by Bruce Carter, to table the item.
Motion carried 8-0.

ACTION: Item tabled.

93-4 CONVEX MIRRORS

Bruce Carter recalled that he had brought the matter before the Committee because he was reluctant to use a device that had no approval and for which there were no usage guidelines. The item had been referred to the Subcommittee on Light Rail.

Jack Fleck from the City of San Francisco said that the City commonly uses convex mirrors to assist motorists exiting public garages. In two locations the City also uses them for steep hills. One, very visible proposed application, will be for light rail along the Embarcadero. In addition to a red arrow, the City wants to try a convex mirror on the median island, with a yellow warning sign saying "WATCH FOR TRAIN, USE MIRROR." The City wants to test for visibility, position, vandalism, corrosion, and graffiti. Fleck estimates completion of the project in four years. Based on the experience of other cities, the City perceives a red arrow as insufficient, and hopes the sign and convex mirror will more forcefully alert the motorist to the danger of a light rail train approaching from the rear. Fleck believes that sunlight will not be a problem for convex mirrors because the mirror focuses the sun to a dot and does not create a glare.

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93-4 CONVEX MIRRORS (continued.)

Bruce Carter recalled that the consensus of the Committee was that a convex mirror was not a traffic control device. Perry Lowden said that convex mirrors as originally proposed was to look around blind corners and the present application is to look over your shoulder. Mike Howard asked if the sign is used in conjunction with the mirror is the combination a traffic control device? The consensus of the Committee was that the mirror was not a traffic control device. Gary Foxen felt strongly that, as defined by the Vehicle Code, the mirror is not a traffic control device and the sign would be a traffic control device. Dick Folkers recommended the Committee not hamper or restrict usage of convex mirrors.

There was some discussion about whether to have a new subcommittee look into this particular problem, or to continue to use the Light Rail Subcommittee. Perry Lowden said that any standard warning sign used would be acceptable. Chairman Howard defined the duties of the Convex Mirror Subcommittee to be a study of the use of convex mirrors, their durability, and review of suggested supplemental sign packages. Bruce Carter suggested the subcommittee review existing uses first. Glenn Grigg suggested separating the issues of sign and mirror.

MOTION: By Dick Folkers, second by Gary Foxen, to form a separate Convex Mirror Subcommittee.

Motion carried 8-0.

MOTION: By Mike Howard, second by Bruce Carter, to close this item.

Motion carried 8-0.

ACTION: Formation of the Convex Mirror Subcommittee. Item completed.

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93-8 SIGNAL LIGHT, BLINKING GREEN

Martin Boyle from the City of Fremont said that the City was interested in any feedback the Committee might have on Mr. T. M. Blalock's letter to the Mr. R. J. Folkers and the CTCDC, dated December 17, 1992. The letter described use of a blinking green phase for traffic signals and endorsed increased traffic safety through photo radar enforcement. Boyle asked if the Committee thought there might be an application for the blinking green phase or if there was any role the Committee could play in supporting legislation for photo radar enforcement.

Roger Burger established that the purpose of the blinking green is to tell motorists that the yellow phase is coming. Perry Lowden said that Delaware has an experimental flashing green for the purpose of indicating an unprotected movement. David Royer of the City of Los Angeles recalled that Seattle used a flashing green for pedestrians in the 1970's and the FHWA stopped it. Mike Howard said that while the flashing green concept has some merit, most motorists recognize the current system of green, yellow, red, and choose to ignore whatever they wish. Howard was reluctant to add another burden to local agencies by revising the existing system.

Some cities have adopted photo technology for speed enforcement and some have dropped it because of problems with the system. Other communities are using this technology for signal enforcement. Perry Lowden noted that there is a bill in the Legislature to ban photo radar unless there is an officer on site to issue the ticket. Gary Foxen said the system, as presently applied, may violate the principal of due process. Russ Taft said the City and County of Los Angeles are using photo technology for signal enforcement on light rail corridors. Dave Royer said the left turn violators are a serious problem in Los Angeles. They did not realize that there were that many red left turn arrow violators. Drivers won't wait when there is an absence of oncoming traffic. This was a limited experiment.

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93-8 SIGNAL LIGHT, BLINKING GREEN (continued.)

Bruce Carter said the FHWA has recognized that there are a number of people running red lights and they intend to research the problem. Carter feels there is just an overall disregard for traffic control devices. Gary Foxen said that Auto Club studies have shown that the motorist understanding of traffic signals is the lowest of all traffic control devices. Dave Royer pointed out that flashing indications are used in pedestrian signals and accidents have been cut in half because motorists see them as a warning that the green light is about to change.

MOTION: By Gary Foxen, second by Russ Taft, to not approve the use of flashing green phases for signals.

Motion carried 8-0.

ACTION: Item completed. Secretary to convey the Committee's decision.

93-9 DELINEATION, CENTERLINE STRIPING WARRANTS

Perry Lowden said that the FHWA has proposed a change to the MUTCD which greatly increases the requirement for centerline delineation of city streets. The marking subcommittee of the National Committee is adamantly opposed to this proposal. Lowden suggested that the appropriate time to write letters is when the proposal comes out in the Federal Register and that the letters should come from the parent organizations. The Committee was concerned that they would not be informed of the issuance of the Federal Register and asked that the Secretary notify Committee members. Stu Wright said there is a process for getting on the Federal Register mailing list, but it's not too effective.

Existing MUTCD guidelines and the two proposals are summarized as follows:

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93-9 DELINEATION, CENTERLINE STRIPING WARRANTS (continued.)

MUTCD (3B-1 Center Lines)

Center lines are recommended on paved highways under the following conditions:

1. In rural districts on two-lane pavements 16' or more in width with prevailing speeds of greater than 35 MPH.
2. In residence or business districts on all through highways, and on other highways where there are significant traffic volumes.
3. On all undivided pavements of four or more lanes.
4. At other locations where an engineering study indicates a need for them.

FHWA PROPOSED AMENDMENT (1988)

Center lines shall be place on all paved roadway surfaces that will retain pavement markings under the following conditions:

1. In rural districts on all two-way roadways 18' or more in width when the prevailing off-peak 85 percentile speed or posted speed limit, whichever is higher, is 35 MPH or greater.
2. In residence or business districts on all through highways with an ADT of 50 or greater, and on other streets where the ADT is 500 or greater.

MARKINGS TECHNICAL COMMITTEE'S PROPOSAL (1992)

Center lines should be placed on paved roadways under the following conditions:

1. In rural districts on two-lane pavements 18' or more in width with an ADT of 1000 vehicles per day or greater.
2. In residence or business districts on through highways and streets with a traveled way of 20' or more in width with an ADT of 5000 vehicles per day or greater.
3. On all two-way undivided streets and highways having three or more travel lanes.
4. At other locations where an engineering study indicates a need for them.

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93-9 DELINEATION, CENTERLINE STRIPING WARRANTS (continued.)

The overwhelming consensus of the Committee is to support the Marking Subcommittee recommendation and against the FHWA proposal.

MOTION: By Perry Lowden, second by Bruce Carter, to conclude the item.
Motion carried 8-0.

ACTION: Item completed.

93-10 SIGNING, LIME-YELLOW SPECTRUM

Lance Heidi representing Napa County and in conjunction with the City of Napa, requested permission to experiment with a yellow green sign which has superior visibility over existing yellow warning signs. The improvement is most apparent during periods of dawn and dusk. The proposal is for sign installation at six schools. Three schools are rural and three are urban. A before and after speed study and subjective questionnaires are to be used. The color has been set aside by the National Committee for special use.

Doug Edwards presented information on a five year product developed by 3M specifically for school zones. The sign is brighter because its fluorescence converts the blue wave length in sunlight to yellow resulting in a 30% increase in reflected light. Fluorescence improves daylight visibility but does not work at night. Edwards contends that the mind creates a subconscious filter when exposed to excessive visual stimuli. Fluorescent brightness overcomes this effect. Signs and markings have to be seen to be effective. The visual contrast between the sign and the environment has to be great enough to allow motorists to respond and this is especially important for the older driver. A recent breakthrough has increased the durability of fluorescent sheeting from 6 months to 5 years thereby making it a practical alternative for signing. Fluorescent sheeting is only offered in diamond grade. Fluorescent orange is a three year product and fluorescent yellow green is a seven year product. A fluorescent red is being developed.

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93-10 SIGNING, LIME-YELLOW SPECTRUM (continued.)

Frank Prim said city signs will be used at a high school and two elementary schools. The signs will be used for school crosswalks and advanced warning signs for schools. Lance Heidi said that the county sign will be used at a crosswalk on an arterial street. Perry Lowden objected to the PTA subjective questions but Prim said it came from the Federal format. They expect to report back to the Committee at the Fall meeting.

Gary Foxen recommended that specific signs and locations be identified for approval. In response to a question from the audience, Perry Lowden pointed out that the Committee was approving testing of specific signs in Napa County. The Committee had concerns about proliferation of unapproved experimentation, since every agency in the State of California had been contacted to encourage experimentation and may not think to contact the Committee. In response to a question concerning opening experimentation to a State wide area, Dick Folkers noted that any other agency wishing to conduct experimentation should come before the Committee for the safety of all concerned. He recommended that the LOCC and CSAC notify their members. Roger Hertz said that 3M representatives have emphatically told local agencies to contact Caltrans before experimentation.

MOTION: By Dick Folkers, second by Perry Lowden, to approve the proposed experimentation subject to Federal approval.

AMENDMENT: By Gary Foxen, second by Perry Lowden, to limit sign application to school symbol, school crossing symbol, pedestrian symbol, and pedestrian crossing symbol signs.

Motion carried as amended 8-0.

ACTION: Item tabled pending results of the experiment.

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93-11 TRAFFIC MANUAL, CHAPTER 10

Perry Lowden presented the draft of Chapter 10, School Area Pedestrian Safety, of the Traffic Manual to the Committee. The chapter is due to be reprinted and was updated and revised to correct minor errors. Gary Foxen suggested that the second sentence of School Responsibility (Section 10-02.3) be revised to read "The school district governing board may request the appropriate city, county, or state agency to install traffic control devices and such agency is obligated to survey the merits of the requested device." He also suggested that the first sentence of Illumination and Reflectorization of Signs (Section 10-03.3) be revised make the terms "ordinarily" and "shall" consistent. Perry Lowden said he would eliminate "ordinarily." Foxen suggested, in the next to the last paragraph, under Position of Signs (Section 10-03.4), that the exception be highlighted with bold type because of its importance. Lowden was reluctant to start a precedent of determining which sentences were important.

Bruce Carter said that his experience indicates there are practical problems with the positioning of warning signs on rural roads. In Section 10-3.4 when there is no shoulder, there is no 12' lateral clearance available. In rural communities there are not very many signs put in those locations. Carter advocates a "should" instead of "shall" requirement for Figure 10-1. Gary Foxen suggested that the last paragraph of Parking and Stopping Signs (Section 10-03.7) be moved to a separate section because it has nothing to do with parking and stopping.

Foxen also suggested that the policy for a W65-1(Pg. 10-7) be revised from "shall" to "should". Stu Wright said that this sign is the only way for a motorist to know where the end of the school speed zone exists. He feels the policy is misleading in that placing a standard speed limit sign has nothing to do with defining the school speed zone. Dick Folkers said that the policy is not followed in common practice. Glenn Grigg said the City of Cupertino was using these signs.

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93-11 TRAFFIC MANUAL, CHAPTER 10 (continued.)

Martin Boyle said that the school speed zone only applies when children are present. He does not see any need for a zone termination sign because children will not be present where the speed limit increases to the normal speed limit. The City of Fremont would not want to post these signs. The MUTCD has the same language as the Traffic Manual. Foxen asked for guidelines in the use of flashing beacons in school zones. Bob Donner thought there may be guidelines in Chapter 9.

MOTION: By Dick Folkers, second by Bruce Carter, to approve Chapter 10 as amended.

Motion carried 8-0.

ACTION: Item completed.

93-12 PEDESTRIAN CROSSWALKS

The subcommittee's report was not available.

ACTION: Item continued.

93-13 SOLAR POWERED SIGNS

Gary Foxen thought the Committee would be interested in this technological development. The item is informational. Perry Lowden said Caltrans is now using this power source among other uses, for call boxes. The Committee then began discussing standard warning signs with LED supplement. Neither the Committee nor Traffic Operations has established standards for quantifying sign brightness.

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93-13 SOLAR POWERED SIGNS (continued.)

LEDs have limited available colors. This may create problems in matching existing standards for borders and legends on guide and warning signs. Dave Royer said that the City of Los Angeles was having this very problem. The light rail is using red LED on a black Background for a no left turn sign. There is no such standard, but this is the only color available.

MOTION: By Mike Howard, second by Perry Lowden, to delete the item.
Motion carried 8-0.

ACTION: Item deleted.

93-14 SPEED CONTROL SIGN EXPERIMENTATION REQUEST

In the absence of Hal Rosenberg the Chairman continued the item.

ACTION: Item continued.

INFORMATIONAL ITEMS

Perry Lowden submitted the Caltrans work Plan for the LED study in Fresno
(Item 93-2 L.E.D. STUDY BY CALTRANS).

Perry Lowden presented standard criteria for the use of plastic drums
(Item 93-7 CHANNELIZER PLASTIC DRUM). The criteria were a joint effort between the Committee and Caltrans. The main features were low density plastic and no external ballast.

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INFORMATIONAL ITEMS (continued.)

The American Traffic Safety Services Association is having a convention and exposition at the Convention Center in Santa Clara County in February 13-15, 1994. The consensus of the Committee was that this is a worthwhile exhibit.

Dave Royer asked that Chapter 7 (Guardrail, Median Barriers, Crash Cushions) be considered for revision because of the major changes made in the 1992 Standard Plans. The City became aware of the discrepancies when reviewing submitted plans which followed the Traffic Manual. Guard rail flares and use of impact attenuators were among the changes made to the Standard Plans. Caltrans is currently working on an update of Chapter 7.

Bruce Carter was concerned about the impending 1995 FHWA change to metric, the available conversion time frame, and the apparent lack of activity. Perry Lowden said the original plan called for a thirty day window, but the proposal is up in the air. Some of the peripheral problems are, revisions of standard dimensions to agree with rounded metric dimensions, corresponding legal code, and car speedometers. The consensus of the Committee was that this was not possible in thirty days. FHWA has not yet committed to traffic sign metric conversion. The issue will be raised when the AASHTO Subcommittee on Metrication meets in the middle of June.

Elections will be held at the next meeting for 1994 committee officers.

ADJOURNMENT

MOTION: By Perry Lowden, second by Bruce Carter, for adjournment.
Motion carried 8-0. The meeting was adjourned at 1:45 PM.